SHARP

SERVICE MANUAL/SERVICE-ANLEITUNG/MANUEL DE SERVICE

S6446RT-111HS

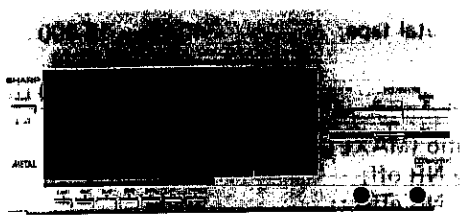

PHOTO: RT-111H(S)

RT-111H(S)(BK)(BR)(W)
RT-111E(S)

DOLBY SYSTEM ®

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- In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.
- Im Interesse der Benutzer-Sicherheit sollte dieses Gerät wieder auf seinen ursprünglichen Zustand eingestellt und nur die vorgeschriebenen Teile verwendet werden.
- Dans l'intérêt de la sécurité de l'utilisateur, l'appareil devra être reconstitué dans sa condition première et seules des pièces identiques à celles spécifiées, doivent être utilisées.

Note for users in UK
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INHALTSVERZEICHNIS

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SHARP CORPORATION

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FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT, PLEASE REFER TO THE OPERATION MANUAL.

SPECIFICATIONS

Semiconductors:	4 ICs 6 Transistors 2 Diodes 11 LEDs
Dimensions:	Width; 330 mm (13") Height; 106 mm (4-3/16") Depth; 264 mm (10-3/8")
Weight:	2.6 kg (5.1 lbs.)
Tape:	Compact cassette tape
Tape speed:	4.75 cm/sec.(1-7/8 ips.)
Wow & flutter:	0.07% WRMS ±0.2% (DIN 45 500)
Frequency response:	
Normal tape;	40 Hz – 12,500 Hz (DIN 45 500) 50 Hz – 11,000 Hz ± 3 dB
MAXELL UDXLII tape;	40 Hz – 13,000 Hz (DIN 45 500) 50 Hz – 12,000 Hz ± 3 dB
TDK Metal tape;	40 Hz – 15,000 Hz (DIN 45 500) 50 Hz – 13,000 Hz ± 3 dB
S/N ratio (MAXELL UDXLII tape):	
Dolby NR off;	56 dB
Dolby NR effect;	10 dB
Input sensitivity and input impedance: (with the RECORD level control at "+10" position)	
Microphones;	0.2 mV, 6.8 kohms
Deck input;	100 mV, 100 kohm
Output level and loaded impedance:	
Deck output;	550 mV, 50 kohms (with the level meter at "0 dB")

Specifications for this model are subject to change without prior notice.

NAMES OF PARTS

1. Power Switch
2. Cassette Compartment
3. Digital Tape Counter
4. Tape Counter Reset Button
5. Power Indicator
6. Dolby NR Switch
7. Tape Selector Switches
8. Eject Button
9. Record Button
10. Play Button
11. Stop Button
12. Rewind Button
13. Fast-forward Button
14. Pause Button
15. Peak Level Display Meter
16. Record Level Control
17. Microphone Jacks
18. Record Level Balance Control
19. Input Selector Switch
20. Input/Output Plug

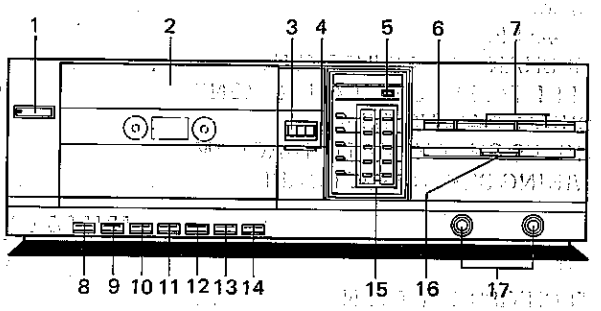

Figure 2–1

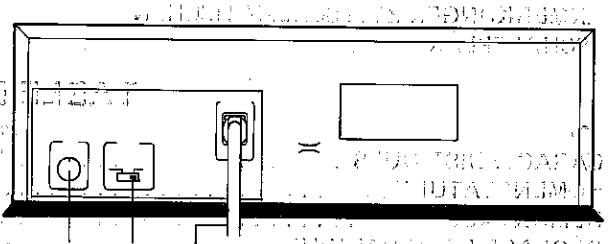

Figure 2–2

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EINE VOLLSTÄNDIGE BESCHREIBUNG DER BEDIENUNG DIESES GERÄTES IST IN DER BEDIENUNGSANLEITUNG ENTHALTEN.

TECHNISCHE DATEN

Bestückung:	4 ICs 6 Transistoren 2 Dioden 11 LEDs
Abmessungen:	Breite; 330 mm Höhe; 106 mm Tiefe; 264 mm
Gewicht:	2,6 kg
Band:	Kompaktcassettenband
Bandgeschwindigkeit:	4,75 cm/s
Gleichlaufschwankungen:	0,07% WRMS ±0,2% (DIN 45 500)
Frequenzgang:	
Normalband;	40 Hz – 12 500 Hz (DIN 45 500) 50 Hz – 11 000 Hz ± 3 dB
MAXELL-UDXLII-Band;	40 Hz – 13 000 Hz (DIN 45 500) 50 Hz – 12 000 Hz ± 3 dB
TDK-Reineisenband;	40 Hz – 15 000 Hz (DIN 45 500) 50 Hz – 13 000 Hz ± 3 dB
Ranschabstand (MAXELL UDXLII-Band):	
Dolby-NR ausgeschaltet;	56 dB
Dolby-NR-Effekt;	10 dB
Eingangsempfindlichkeit- und -impedanz:	
(bei Einstellung des RECORD-Stellers auf "+10"):	
Mikrofoneingang;	0,2 mV, 6,8 Kiloohm
DIN-Eingang;	100 mV, 100 Kiloohm
Ausgangspegel und Belastungsimpedanz:	
DIN-Ausgang:	550 mV, 50 Kiloohm (bei Aufleuchten der Anzeige "0 dB")

Die technischen Daten für dieses Modell können ohne vorherige Ankündigung Änderungen unterworfen sein.

BEZEICHNUNG DER TEILE

1. Netzschalter
2. Cassettenfach
3. Digitale-Bandzählwerk
4. Bandzählwerk-Rückstelltaste
5. Einschaltanzeige
6. Dolby-NR-Schalter
7. Bandsortenwahlschalter
8. Auswurftaste
9. Aufnahmetaste
10. Wiedergabetaste
11. Stopptaste
12. Rückspultaste
13. Schnellvorlauftaste
14. Pausentaste
15. Spitzenwertanzeigefeld
16. Aufnahmepegelsteller
17. Mikrofonbuchsen
18. Aufnahmepegel-Balancesteller
19. Eingangswahlschalter
20. Eingangs-/Ausgangsstecker

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POUR LA DESCRIPTION COMPLÈTE DU FONCTIONNEMENT DE CET APPAREIL, SE REPORTER AU MODE D'EMPLOI.

CARACTÉRISTIQUES

Semi-conducteurs:	4 CI 6 transistors 2 diodes 11 LED
Dimensions:	Largeur; 330 mm Hauteur; 106 mm Profondeur; 264 mm
Poids:	2,6 kg
Bande:	Bande cassette compacte
Vitesse de la bande:	4,75 cm/s
Pleurage et scintillement:	0,07% WRMS ±0,2% (DIN 45 500)
Réponse de fréquence:	
Bande normale;	40 Hz à 12 500 Hz (DIN 45 500) 50 Hz à 11 000 Hz ± 3 dB
Bande MAXELL UDXLII;	40 Hz à 13 000 Hz (DIN 45 500) 50 Hz à 12 000 Hz ± 3 dB
Bande métallique TDK;	40 Hz à 15 000 Hz (DIN 45 500) 50 Hz à 13 000 Hz ± 3 dB
Tapport S/B (Bande MAXELL UDXLII):	
Dolby NR coupe;	56 dB
Effet Dolby NR;	10 dB
Sensibilité d'entrée et impédance d'entrée:	
(avec la commande de niveau d'enregistrement sur la position "+10")	
Microphones;	0,2 mV, 6,8 kohms
Entrée DIN;	100 mV, 100 kohms
Niveau de sortie et impédance charge:	
Sortie DIN:	500 mV, 50 kohms (avec le compteur de niveau à "0 dB")

Les caractéristiques de ce modèle sont sujettes à modification sans préavis.

NOMENCLATURE

1. Commutateur d'alimentation
2. Compartiment de cassette
3. Compteur numérique de bande
4. Bouton de remise à zéro du compteur
5. Témoin d'alimentation
6. Commutateur Dolby NR
7. Commutateurs de sélection de bande
8. Bouton d'éjection
9. Bouton d'enregistrement
10. Bouton de lecture
11. Bouton d'arrêt
12. Bouton de rebobinage
13. Bouton d'avance rapide
14. Bouton de pause
15. Compteur d'affichage du niveau de crête
16. Commande de niveau d'enregistrement
17. Douilles de microphone
18. Commande de balance de niveau d'enregistrement
19. Commutateur de sélection d'entrée
20. Fiche d'entrée/sortie

DISASSEMBLY

Caution on Disassembly
Follow the below-mentioned notes when disassembling the unit and reassembling it, to keep its safety and excellent performance.

1. Take cassette tape out of the cassette holder.
2. Be sure to remove the input/output plug from the SA-111H/E before starting to disassemble the unit.
3. Take off nylon bands or wire holders where they need be removed when disassembling the unit. After servicing the unit, be sure to rearrange the leads where they were before disassembling.
4. Take sufficient care on static electricity of integrated circuits and other circuits when servicing.

STEP	REMOVAL	PROCEDURE	FIGURE
1	Cabinet	1. Screw . . . . . (A)x5	4–1
2	Bottom plate	1. Screw . . . . . (B)x6	4–2
3	Cassette deck mechanism	1. Open the cassette holder . . . . . (C) 2. Tape counter drive belt . . . . . (D) 3. Record/Playback selector rod . . . . . (E) 4. Socket . . . . . (F)x3 5. Screw . . . . . (G)x4	4–3 4–2, 4–3
4	Front panel	1. Screw . . . . . (H)x13	4–2, 4–3, 4–4

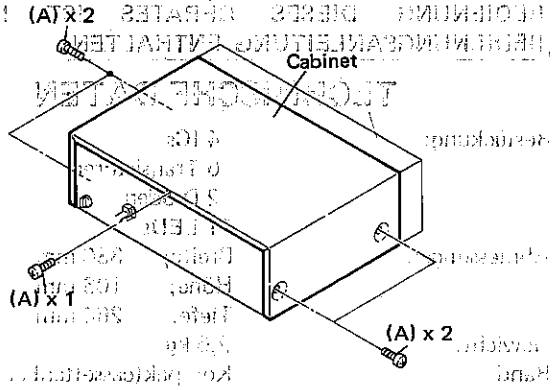


Figure 4–1

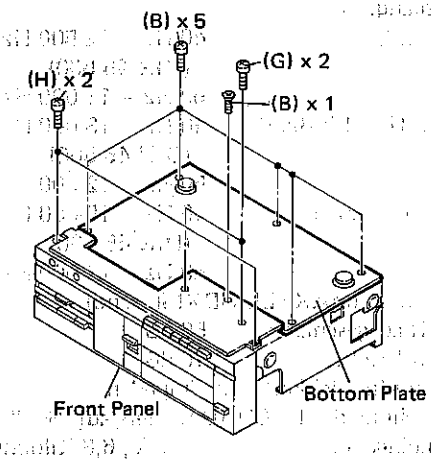


Figure 4–2

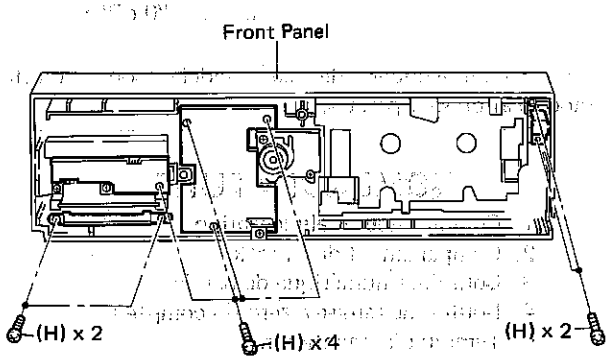


Figure 4–4

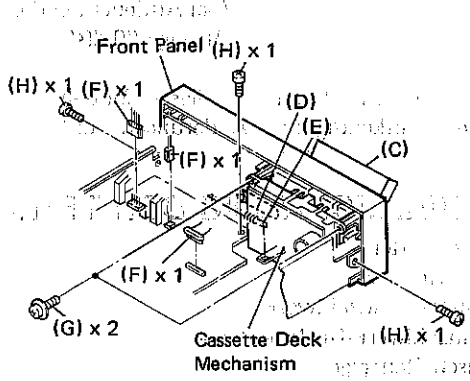


Figure 4–3

Ⓓ ZERLEGEN

Vorsichtsmassregeln für das zerlegen
Beim Zerlegen und Zusammenbauen des Gerätes die folgenden Anweisungen befolgen, um dessen Betriebssicherheit und ausgezeichnete Leistung aufrechtzuerhalten.

1. Cassette aus dem cassettenhalter entfernen.
2. Vor dem Zerlegen des Gerätes unbedingt den Eingangs-/Ausgangsstecker aus dem SA-111H/E ziehen.
3. Nylonbänder oder Leitungshalter entfernen, falls dies beim Zerlegen des Gerätes erforderlich ist. Nach Warten des Gerätes darauf achten, die Leitungen wieder so zu verlegen, wie sie vor dem Zerlegen angeordnet waren.
4. Beim Ausführen von Wartungsarbeiten auf statische Elektrizität der integrierten Schaltkreise und anderen Schaltungen achten.

SCHRITT	ENTFERNEN	VERFAHREN	ABBILDUNG
1	Gehäuse	1. Schraube . . . . . (A)x5	4–1
2	Bodenplatte	1. Schraube . . . . . (B)x6	4–2
3	Cassettendeck-laufwerk	1. Cassettenhalter öffnen . . . . . (C) 2. Bandzählwerk-Antriebsriemen . . . . . (D) 3. Aufnahme-/Wiedergabe-Wahlschalterstab . . (E) 4. Buchse . . . . . (F)x3	4–3
		5. Schraube . . . . . (G)x4	4–2, 4–3
4	Frontplatte	1. Schraube . . . . . (H)x13	4–2, 4–3, 4–4

Ⓕ DÉMONTAGE

Précautions pour le démontage
Lors du démontage de l'appareil et de son remontage, suivre les précautions ci-dessous, pour maintenir la sécurité et d'excellentes performances.

1. Déposer la bande cassette du porte-cassette
2. Ne pas oublier de retirer la fiche d'entrée/sortie du SA-111H/E avant de démonter l'appareil.
3. Déposer les bandes de nylon ou les serre-câbles si nécessaire lors du démontage de l'appareil. Après la réparation de l'appareil, s'assurer de redisposer les fils tel qu'ils étaient avant le démontage.
4. Faire attention à l'électricité statique des circuits intégrés et des autres circuits lors de la réparation.

ÉTAPE	DÉPOSE	PROCÉDÉ	FIGURE
1	Coffret	1. Vis . . . . . (A)x5	4–1
2	Plaque de base	1. Vis . . . . . (B)x6	4–2
3	Mécanisme du magnétophone	1. Ouvrir le porte-cassette . . . . . (C) 2. Courroie d'entraînement du compteur de bande . . . . . (D) 3. Tige de sélection enregistrement/lecture . . . . . (E) 4. Douille . . . . . (F)x3	4–3
		5. Vis . . . . . (G)x4	4–2, 4–3
4	Panneau avant	1. Vis . . . . . (H)x13	4–2, 4–3, 4–4

MECHANICAL ADJUSTMENT

*Connect the input/output plug to amplifier (SA-111H/E), or apply +12V by an external DC power supply.

ITEM	JIG	ADJUSTMENT POINTS	REMARKS (CHECK)
Pinch roller pressure	Tension gauge (500 g)	Pinch roller pressure spring	350 – 420 g * If the reading is outside the range, replace the pressure spring of the pinch roller.
Torque	Torque meter Play TW-2111 Fast-forward TW-2231 Rewind TW-2231		(Play : 35–60 g-cm) (Fast-forward : 90–135 g-cm) (Rewind : 90–135 g-cm)
Azimuth	Test tape MTT-114	Azimuth adjusting screw	Sine waveform attains the maximum.
Tape speed	Test tape MTT-111	Variable resistor on motor	2,980 ± 20 Hz

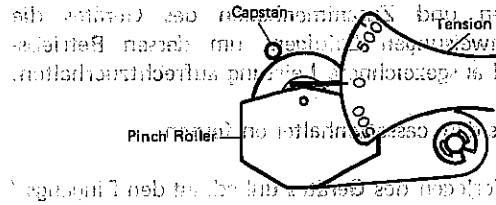


Figure 6–1 PINCH ROLLER PRESSURE

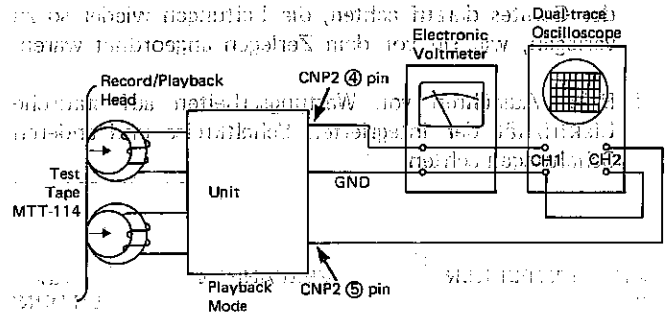


Figure 6–2 AZIMUTH

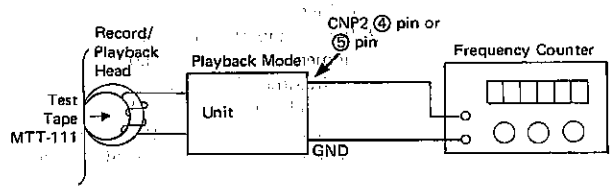


Figure 6–3 TAPE SPEED

TEST TAPES FOR MEASUREMENT

COMPACT CASSETTE TYPE			
TITLE	MODEL	FREQUENCY/ LEVEL	APPLICATION
FLUTTER	MTT-111	3 kHz, –10 dB	Tape speed, Wow and flutter check
AZIMUTH	MTT-113 MTT-113C MTT-114	6.3 kHz, –10 dB 8 kHz, –10 dB 10 kHz, –10 dB	Head azimuth adjustment
DISTORTION	MTT-118	1 kHz, –10 dB	Distortion check level adjustment
DOLBY LEVEL CALIBRATION	MTT-150	Dolby B-Type Tone 200 nwb/m	Dolby NR B-type level adjustment
BLANK	MTT-502	——	Record frequency check

TORQUE METER FOR COMPACT CASSETTE		
MODEL	MEASUREMENT RANGE	APPLICATION
TW-2111	10 – 100 g-cm	Normal : Playback torque
	1.5 – 10 g-cm	Normal : Back tension
TW-2121	10 – 100 g-cm	Reverse : Playback torque
	1.5 – 10 g-cm	Reverse : Back tension
TW-2231	30 – 200 g-cm	Fast-forward, Rewind torque
TW-2412	0 – 300 g	Normal : Driving power
TW-2422	0 – 300 g	Reverse : Driving power

Ⓓ MECHANISCHE EINSTELLUNG

*Den Eingangs-/Ausgangsstecker an den Verstärker (SA-111H/E) anschließen oder durch eine Außengleichspannung +12V zuleiten.

BENENNUNG	FÜHRUNGS-LEHRE	EINSTELL-PUNKT	BEMERKUNGEN (PRÜFUNG)
Andruck-rollen-druck	Federwaage (500 g)	Andruckrol-lendruckftder	350 – 420 g *Wenn ein anderer Wert angezeigt wird, die Druck-feder der Andruckrolle auswechseln.
Dreh-moment	Drehmoment-messer Wiedergabe: TW-2111 Schnellvorlauf: TW-2231 Rückspulung: TW-2231	–	(Wiedergabe: 35 – 60 g-cm) (Schnellvorlauf: 90 – 135 g-cm) (Rückspulung: 90 – 135 g-cm)
Azimut	Testband MTT-114	Azimuteinstell-schraube	Sinuswellenform wird maximal.
Bandge-schwin-digkeit	Testband MTT-111	Stellwiderstand am Motor	2 980 ± 20 Hz

TESTBÄNDER FÜR MESSUNG

KOMPAKTCASSETTENTYPE			
BENENNUNG	MODELL	FREQUENZ/ PEGEL	ANWENDUNG
GLEICHLAUF-SCHWAN-KUNGEN	MTT-111	3 kHz, – 10 dB	Überprüfung der Bandgeschwin-digkeit und Gleichlauf-schwankungen
AZIMUT	MTT-113 MTT-113C MTT-114	6,3 kHz, – 10 dB 8 kHz, – 10 dB 10 kHz, – 10 dB	Kopfazimutein-stellung
KLIRR-FAKTOR	MTT-118	1 kHz, – 10 dB	Verzerrungs-pegeleinstellung
DOLBY-PEGEL-EICHUNG	MTT-150	Ton von Dolby B-Typ 200 nwb/m	Dolby-NR B-Typ-Pegelein-stellung
LEER-CASSETTE	MTT-502	——	Überprüfung der Aufnahme-frequenz

DREHMOMENTMESSER FÜR KOMPAKTCASSETTE		
MODELL	MESSBEREICH	ANWENDUNG
TW-2111	10 – 100 g-cm	Normal : Wiedergabedrehmoment
	1,5 – 10 g-cm	Normal : Rückzug
TW-2121	10 – 100 g-cm	Rücklauf : Wiedergabedrehmoment
	1,5 – 10 g-cm	Rücklauf : Rückzug
TW-2231	30 – 200 g-cm	Schnellvorlauf-, Rückspul-drehmoment
TW-2412	0 – 300 g	Normal : Antriebskraft
TW-2422	0 – 300 g	Rücklauf : Antriebskraft

Ⓕ RÉGLAGE DE MÉCANIQUE

*Brancher la fiche d'entrée/sortie sur l'amplificateur (SA-111H/E), ou alimenter le courant de +12V CC.

ARTICLE	GABARIT	POINTS DE RÉGLAGE	REMARQUES (VÉRIFICATION)
Pression du galet pinceur	Jauge de tension (500 g)	Ressort de pression du galet pinceur	350 – 420 g *Si l'indication par la jauge est hors de la gamme, remplacer le ressort de pression du galet pinceur.
Couple	Compteur de couple Lecture: TW-2111 Avance rapide: TW-2231 Rebobinage: TW-2231	–	(Lecture: 35 à 60 g-cm) (Avance rapide: 90 à 135 g-cm) (Rebobinage: 90 à 135 g-cm)
Azimuth	Bande d'essai MTT-114	Vis de réglage de l'azimuth	La forme d'onde sinusoïdale atteint le maximum.
Vitesse de la bande	Bande d'essai MTT-111	Résistance variable sur le moteur	2 980 ± 20 Hz

BANDES D'ESSAI POUR MESURAGE

TYPE CASSETTE COMPACTE			
TITRE	MODÈLE	FRÉQUENCE/ NIVEAU	APPLICATION
PLEURAGE	MTT-111	3 kHz, – 10 dB	Vérification de la vitesse de bande et du pleurage et scintillement
AZIMUTH	MTT-113 MTT-113C MTT-114	6,3 kHz, – 10 dB 8 kHz, –10 dB 10 kHz, –10 dB	Réglage de l'azimuth de la tête
DISTORSION	MTT-118	1 kHz, –10 dB	Réglage de niveau de distorsion
CALIBRAGE DU NIVEAU DOLBY	MTT-150	Tonalité Dolby type B, 200 nwb/m	Réglage du niveau type B Dolby NR
ESPACE VIERGE	MTT-502	——	Vérification de la fréquence d'enregistrement

JAUGE DE COUPLE POUR CASSETTE COMPACTE		
MODÈLE	GAMME DE MESURE	APPLICATION
TW-2111	10 – 100 g-cm	Normal : Lecture d'enroulement
	1,5 – 10 g-cm	Normal : Tension arrière
TW-2121	10 – 100 g-cm	Retour : Lecture d'enroulement
	1,5 – 10 g-cm	Retour : Tension arrière
TW-2231	30 – 200 g-cm	Couple d'avance rapide et de rembobinage
TW-2412	0 – 300 g	Normal : Puissance d'entraînement
TW-2422	0 – 300 g	Retour : Puissance d'entraînement

Ⓔ CIRCUIT ADJUSTMENT

Connect the input/output plug to amplifier (SA-111H/E) or apply +12V by an external DC power supply.

ITEM	INPUT	ADJUSTMENT POINT	REMARKS (CHECK)
SETTING POSITION OF SWITCH AND KNOB	• Dolby NR Switch: off • Tape Selector Switches: Normal • Input Selector Switch: LINE		
BIAS OSCILLATION FREQUENCY		L303	105 ± 2 kHz
BIAS CURRENT		L: VR301 R: VR302	Normal: 40 mV (CrO_2: 60 ± 5 mV) (Metal: 86 ± 10 mV)
ERASE CURRENT		—	(Metal: 36.5 ± 2V)
PLAYBACK SENSITIVITY	Test tape MTT-150	L: VR101 R: VR201	Normal: 580 mV
RECORD/ PLAYBACK SENSITIVITY	Non-recorded tape (MTT-502) 1 kHz, −10 dB (1 V = 0 dB)	L: VR103 R: VR203	1. Adjust the record level knobs so that the electronic voltmeter reads 410 mV. 2. Playback the normal tape recorded and adjust the semi-variable resistor so that the electronic voltmeter reads 387 – 434 mV.

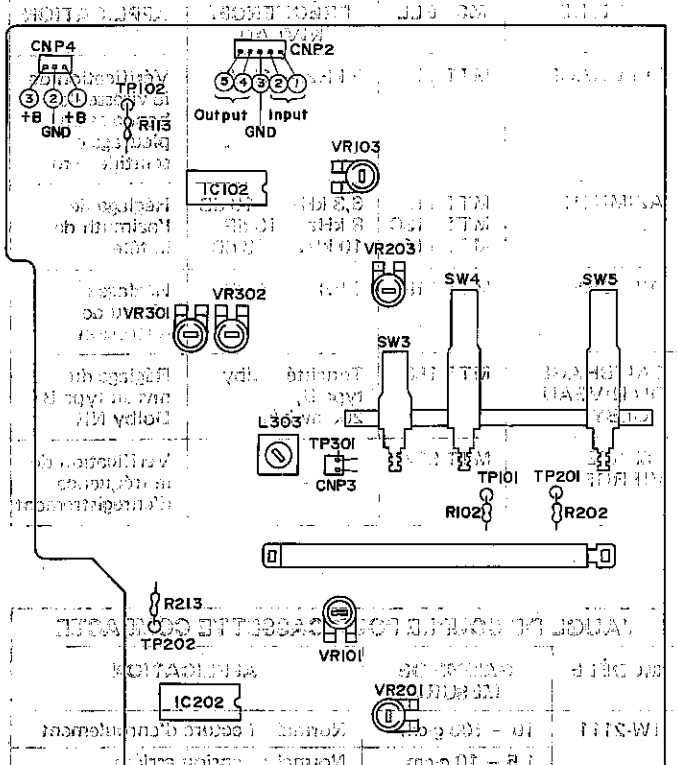


Figure 8–5 ADJUSTMENT POINTS

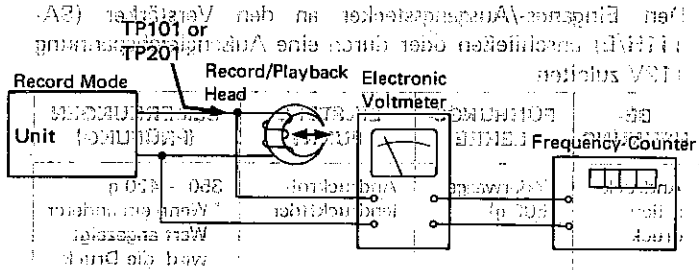


Figure 8–1 BIAS OSCILLATION FREQUENCY/ BIAS CURRENT

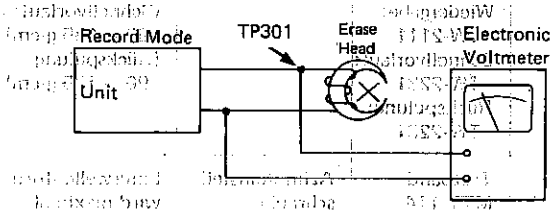


Figure 8–2 ERASE CURRENT

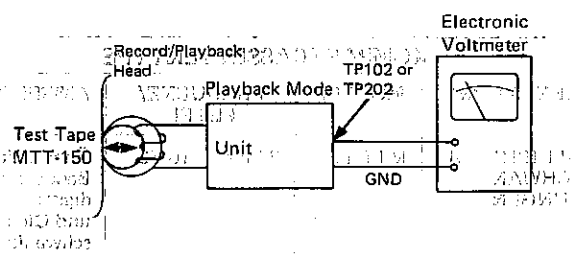


Figure 8–3 PLAYBACK SENSITIVITY

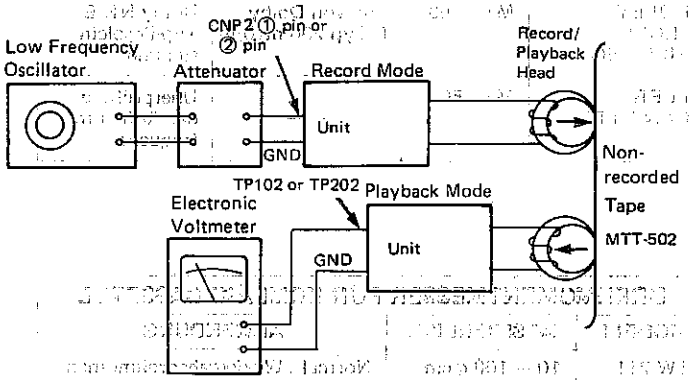


Figure 8–4 RECORD/PLAYBACK SENSITIVITY

Ⓓ SCHALTUNGSEINSTELLUNG

*Den Eingangs-/Ausgangsstecker an den Verstärker (SA-111H/E) anschließen oder durch eine Außengleichspannung +12V zuleiten.

SCHALTER- UND STELLER-EINSTELL-POSITION	• Dolby-NR-Schalter: Aus • Bandsortenwahlschalter: Normal • Eingangswahlschalter: LINE		
BENNENNUNG	**EINGANG**	**EIN-STELL-PUNKT**	**BEMERKUNGEN (PRÜFUNG)**
VORMAGNETI-SIERUNGS-SCHWING-FREQUENZ	–	L303	105 ± 2 kHz
VORMAGNETI-SIERUNGS-STROM	–	L: VR301 R: VR302	Normalband: 40 mV (CrO_2 - Band: 60 ± 5 mV) (Reineisenband: 86 ± 10 mV)
LÖSCHSTROM	–	–	(Reineisenband: 36.5 ± 2V)
WIEDERGABE-VERSTÄRKER-EMPFIND-LICHKEIT	Testband MTT-150	L: VR101 R: VR201	Normalband: 580 mV
AUFNAHME-/ WIEDERGABE-EMPFINDLICH-KEIT	Unbespiel-tes Band MTT-502 1 kHz, –10 dB (1 V = 0 dB)	L: VR103 R: VR203	1. Den Aufnahme-pegelsteller so einstellen, daß der elektronische Spannungsmesser 410 mV anzeigt. 2. Das bespielte Normalband wie-dergeben und den Trimmer so einsteelen, daß der elektronische Spannungsmesser 387 – 434 mV anzeigt.

Ⓕ RÉGLAGE DU CIRCUIT

*Brancher la fiche d'entrée/sortie sur l'amplificateur (SA-111H/E), ou alimenter le courant de +12V CC.

RÉGLAGE DE LA POSITION DES COMMUTA-TEURS ET DES BOUTONS	• Commutateur Dolby NR: Coupé • Commutateurs de sélection de bande: Normale • Commutateur de sélection d'entrée: LINE		
ARTICLE	**ENTRÉE**	**POINT DE RÉGLAGE**	**REMARQUES (VÉRIFICATION)**
FRÉQUENCE DE L'OSCILLA-TION DE POLARISATION	–	L303	105 ± 2 kHz
COURANT DE POLARISATION	–	G: VR301 D: VR302	Normal: 40 mV (CrO_2: 60 ± 5 mV) (Metal: 86 ± 10 mV)
COURANT D'EFFACEMENT	–	–	(Metal: 36.5 ± 2V)
SENSIBILITÉ DE L'AMPLIFI-CATEUR DE LECTURE	Bande d'essai MTT-150	G: VR101 D: VR201	Normal: 580 mV
SENSIBILITÉ D'ENREGIS-TREMENT/ LECTURE	Bande non enregistrée MTT-502 1 kHz, –10 dB (1 V = 0 dB)	G: VR103 D: VR203	1. Régler la bouton de commande de niveau du disque de telle sorte que le voltmètre électronique indique 410 mV. 2. Lire une bande normale enregis-trée et régler la résistance semi-variable de telle sorte que le voltmètre élec-tronique indique 387 – 434 mV.

Ⓔ NOTES ON SCHEMATIC DIAGRAM

- Resistor:
  To differentiate the units of resistors, such symbol as K is used: the symbol K means 1000 ohm and the resistor without any symbol is ohm-type resistor.
- Capacitor:
  To indicate the unit of capacitor, a symbol P is used: this symbol P means micro-micro-farad and the unit of the capacitor without such a symbol is microfarad. As to electrolytic capacitor, the expression "capacitance/with-stand voltage" is used.
- Parts marked with "△" (▨) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.
- The indicated voltage in each section is the one measured by Digital Multmeter between such a section and the chassis with no signal give.
  ( ): Record mode
  Marking, except for ( ): Stop mode
- Schematic diagram and Wiring Side of P.W.Board for this model are subject to change for improvement without prior notice.
- SW11:
  This switch is intended to control the APSS function. However, it is not effective in this model which is not provided with the APSS function.

Ⓓ ANMERKUNGEN ZUM SCHEMATISCHEN SCHALTPLAN

- Widerstände:
  Um die Einheiten der Widerstände unter-scheiden zu können, werden Symbole wie K benutzt. Das Symbol K bedeutet 1000 Ohm Bei Widerständen ohne Symbol handelt es sich um ohmsche Widerstände.
- Kondensatoren:
  Zum Bezeichnen der Kondensatoreinheit wird das Symbol P benutzt; dieses Symbol P bedeutet Nanofard. Die Einheit eines Kondensators ohne Symbol ist Mikrofarad. Für Elektrolytkondensatoren wird die Be-zeichnung "Kapazität / Stehspannung" benutzt.
- Die mit △ (▨) bezeichneten Teile sind besonders wichtig für die Aufrechterhaltung der Sicherheit. Beim Wechseln dieser Teile sollten die vorgeschriebenen Teil immer verwendet werden, um sowohl die Sicherheit als auch die Leistung des Gerätes aufrechtzuerhalten.
- Die in den einzelnen Teilen angegebenen Spannungen werden mit einem Digitalvielfachmeßgerät zwischen dem betreffen den Teil und dem Chassis ohne Signalzuleitung gemessen.
  ( ): Aufnahme-Betriebsart
  Kennzeichnung außer ( ): Stopp-Betriebsart
- Änderungen des schematischen Schaltplans und der Verdrahtungsseite der Leiterplatte für dieses Modell im Sinne von Verbesserungen jederzeit vorbehalten.
- SW11:
  Dieser Schalter ist zur Steuerung der APSS-Funktion beabsichtigt. Aber der ist in diesen Modellen nicht wirksam, weil die mit der APSS-Funktion nicht vorgesehen sind.

Ⓕ REMARQUES CONCERNANT LE DIAGRAMME SCHÉMATIQUE

- Résistance:
  Pour différencier les unités de résistances, on utilise des symbole tels que K: le symbole K signifie 1000 ohms et la résistance donnée sans symbole est une résistance de type ohm.
- Condensateur:
  Pour indiquer l'unité de condensateur, on utilise le symbole P; ce symbole P signifie micro-microfarad, et l'unité de condensateur donnée sans ce symbole est le microfarad. En ce qui concerne le condensateur électrolytique, on utilise l'expression "tension de régime/capacité"
- Les pièces portant la marque △ (▨) sont particulièrement importantes pour le maintien de la sécurité. S'assurer de les remplacer par des pièces du numéro de prèce spécifié pour maintenir la sécurité et la performance de l'appareil.
- La tension indiquée dans chaque section est celle mesuré par un multimétre numérique entre la section en questio et le châssis, en l'absence de tout signal.
  ( ): Mode d'enregistrement
  Marque, excepté pour ( ): Mode d'arrêt
- Le diagramme schématique et le côté câblage de la PMI d ce modèle sont sujets à modifications sans préavis pou l'amélioration de ce produit.
- SW11:
  Ce commutateur, destiné à la fonction APSS, ne fait aucun effet sur ce modèle dépourvu de cette fonction.

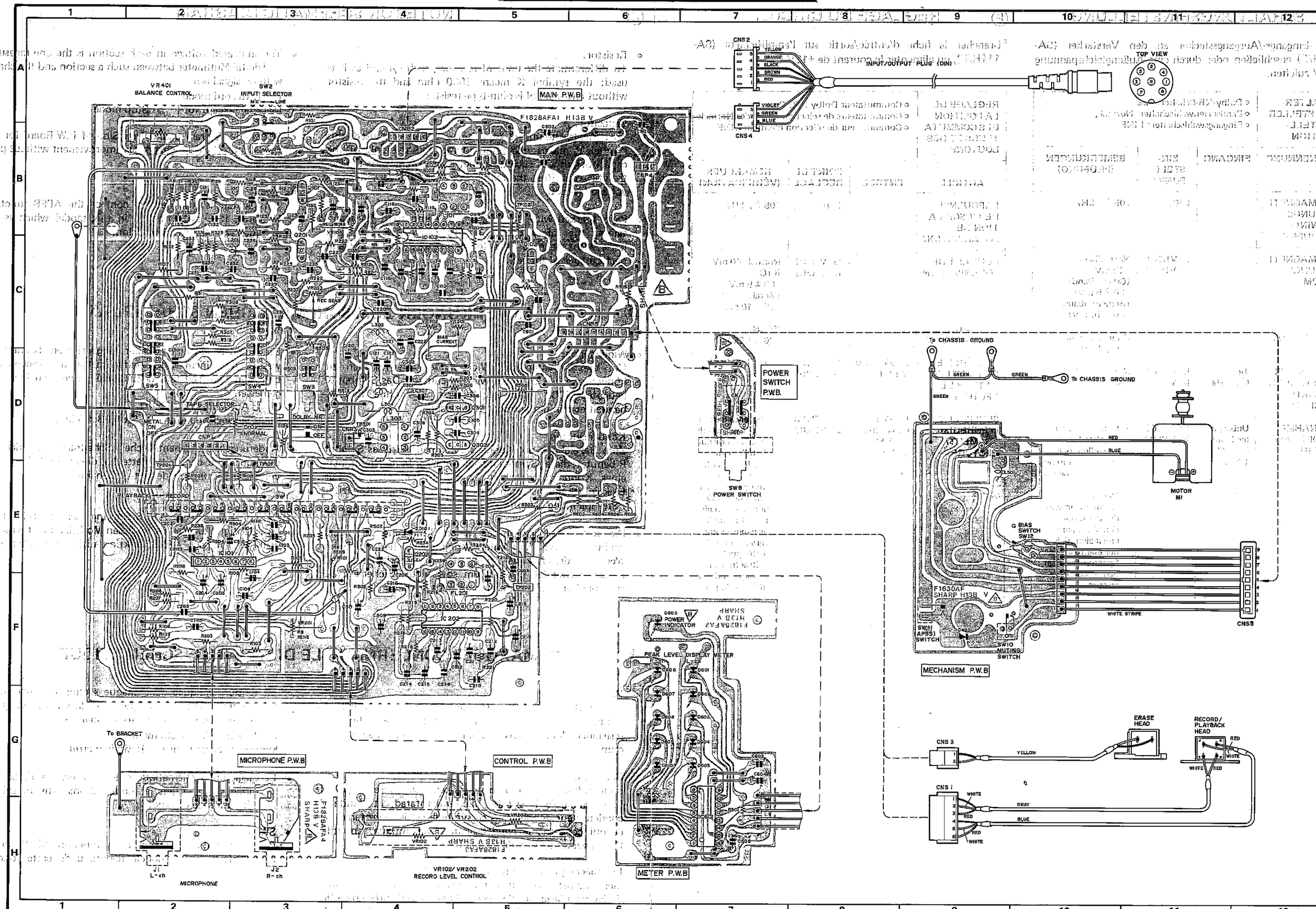
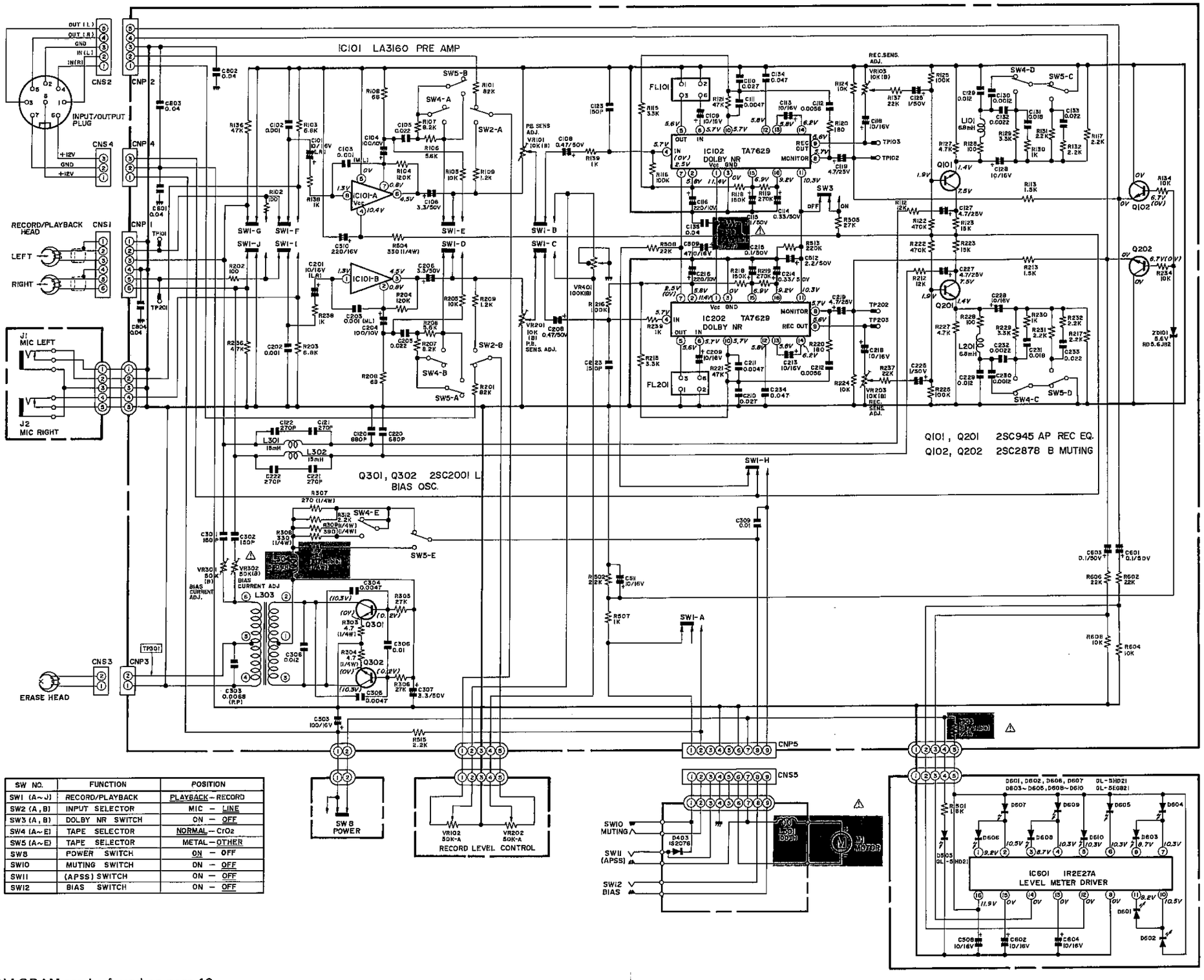


Figure 11 WIRING SIDE OF P.W.BOARD

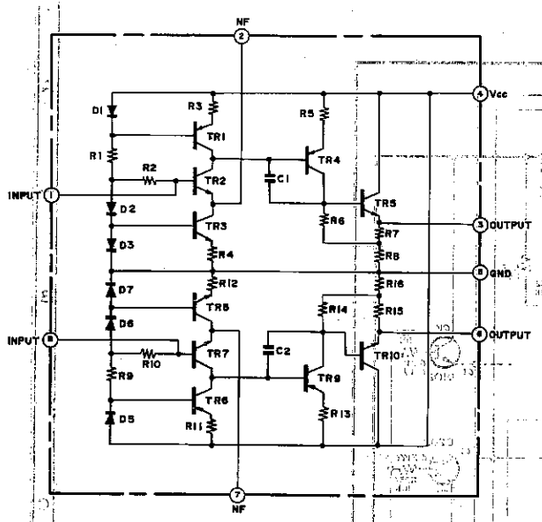


SW NO.	FUNCTION	POSITION
SW1 (A~J)	RECORD/PLAYBACK	PLAYBACK – RECORD
SW2 (A, B)	INPUT SELECTOR	MIC – LINE
SW3 (A, B)	DOLBY NR SWITCH	ON – OFF
SW4 (A~E)	TAPE SELECTOR	NORMAL – CrO2
SW5 (A~E)	TAPE SELECTOR	METAL – OTHER
SW8	POWER SWITCH	ON – OFF
SW10	MUTING SWITCH	ON – OFF
SW11	(APSS) SWITCH	ON – OFF
SW12	BIAS SWITCH	ON – OFF

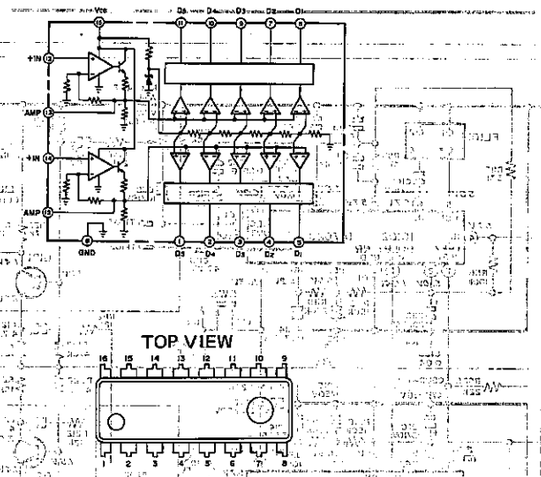
- NOTES ON SCHEMATIC DIAGRAM can be found on page 10.
- ANMERKUNGEN ZUM SCHEMATISCHEN SCHALTPLAN stehen auf Seite 10.
- REMARQUES CONCERNANT LE DIAGRAMME SCHEMATIQUE sont indiquées à la page 10.

Figure 13 SCHEMATIC DIAGRAM

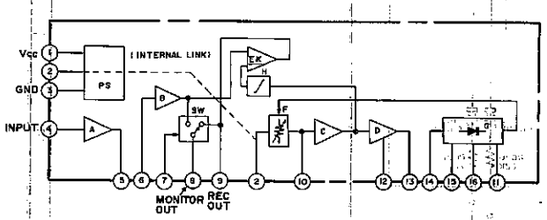
IC101: VHiLA3160//-1(LA3160)



IC601: VHiiR2E27A/-1
(IR2E27A)



IC102, 202: VHiTA7629P/-1(TA7629P)



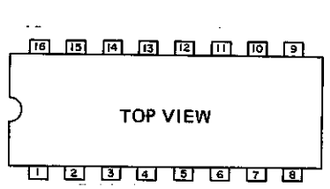


Figure 15–1 EQUIVALENT CIRCUIT (BLOCK DIAGRAM) OF IC

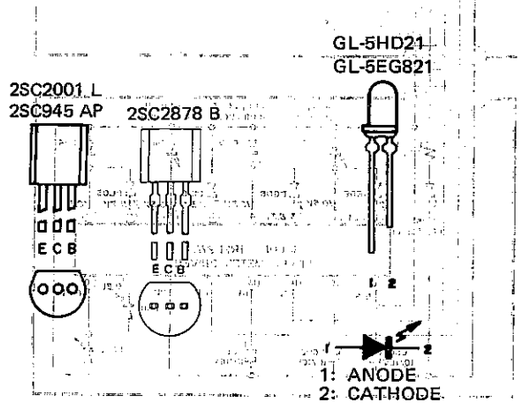


Figure 15–2 TYPES OF TRANSISTOR AND LED

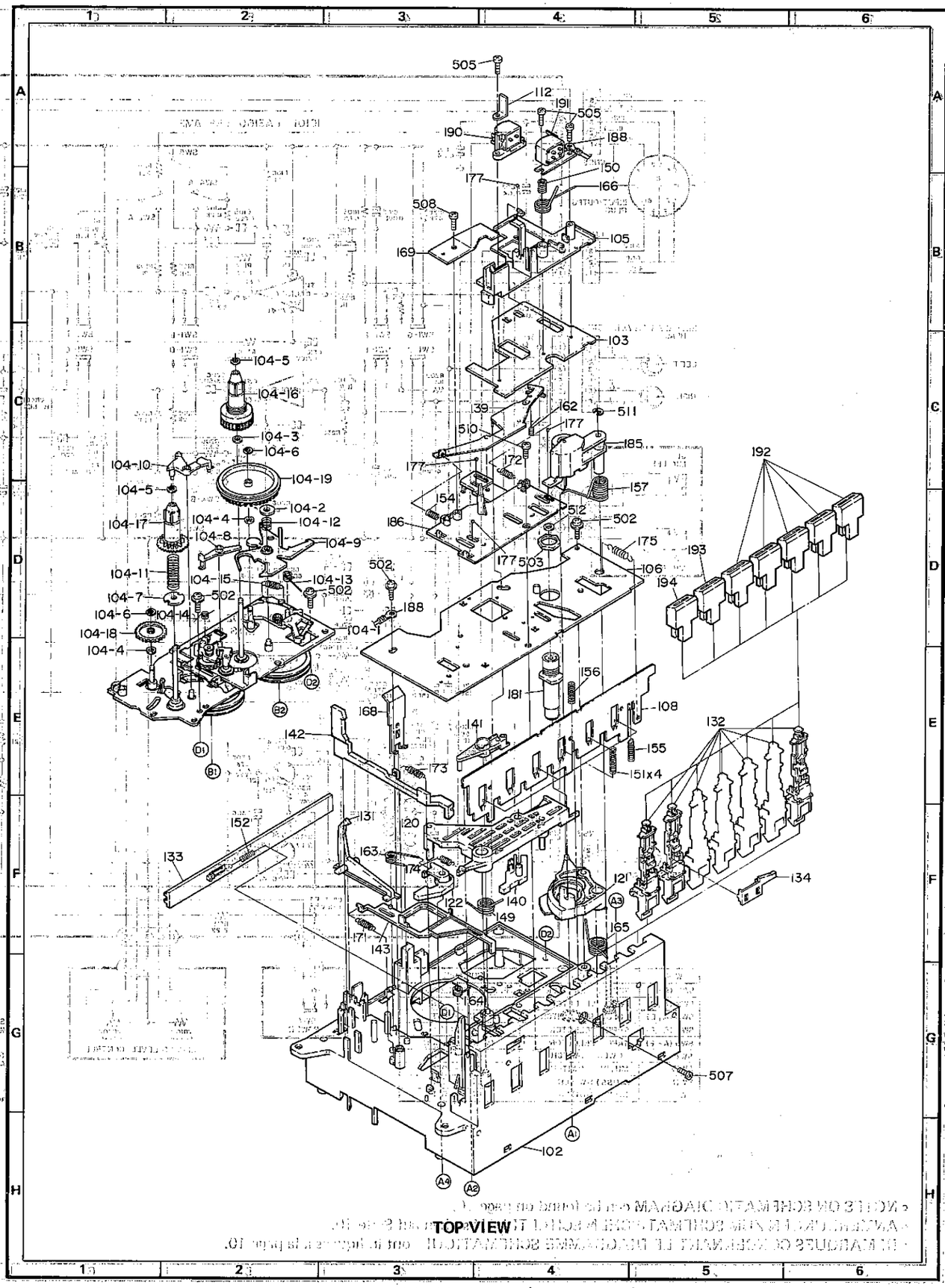
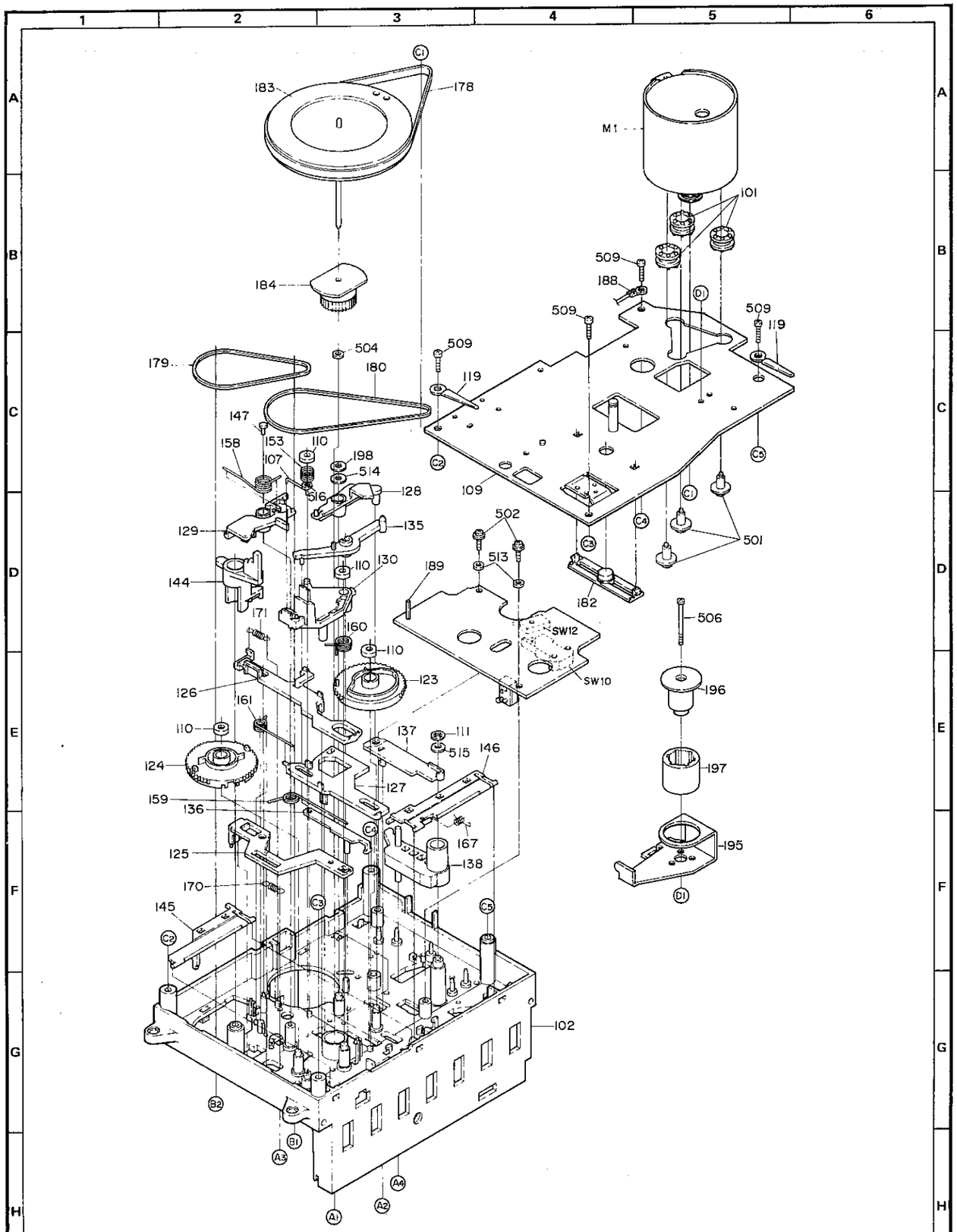


Figure 16 EXPLODED VIEW (MECHANISM)



BOTTOM VIEW

Figure 17 EXPLODED VIEW (MECHANISM)

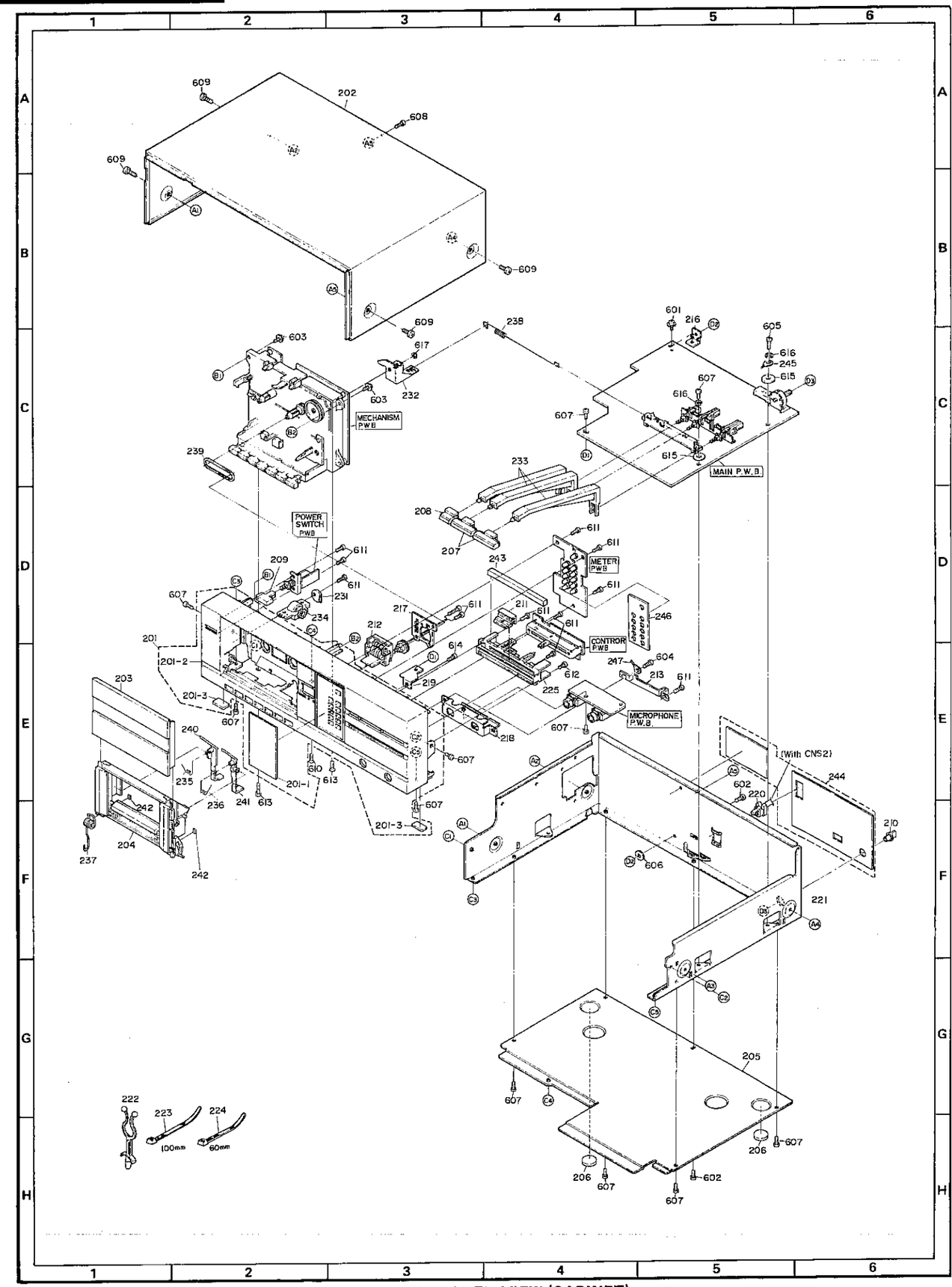


Figure 18 EXPLODED VIEW (CABINET)

(E)

REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

NOTE:
Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

(D)

ERSATZTEILLISTE

"BESTELLEN VON ERSATZTEILEN"

Um Ihren Auftrag schnell und richtig ausfuhren zu können, bitten wir um die folgenden Angaben.

1. MODELLNUMMER
2. REF. NR.
3. TEIL NR.
4. BESCHREIBUNG

ANMERKUNGEN:
Die mit ⚠ bezeichneten Teile sind besonders wichtig für die Aufrechterhaltung der Sicherheit. Beim Wechseln dieser Teile sollten die vorgeschriebenen Teile immer verwendet werden, um sowohl die Sicherheit als auch die Leistung des Gerätes aufrechtzuerhalten.

(F)

LISTE DES PIÈCES DE RECHANGE

"COMMENT COMMANDER DES PIÈCES DE RECHANGE"

Pour voir votre commande exécutée de manière rapide et correcte, veuillez fournir les renseignements suivants.

1. NUMÉRO DU MODÈLE
2. N° DE RÉFÉRENCE
3. N° DE LA PIÈCE
4. DESCRIPTION

NOTE:
Les pièces portant la marque ⚠ sont particulièrement importantes pour le maintien de la securité. S'assurer de les remplacer par des pièces du numéro de pièce spécifié pour maintenir la sécurité et la performance de l'appareil.

REF.NO.	PART NO.	DESCRIPTION	CODE
		INTEGRATED CIRCUITS	
IC101	VHiLA3160//-1	Dual Pre-Amp, LA3160	AG
IC102	VHiTA7629P/-1	Dolby NR Circuit, TA7629P	AL
IC202	VHiTA7629P/-1	Dolby NR Circuit, TA7629P	AL
IC601	VHiiR2E27A/-1	Level Meter Driver, IR2E27A	AK
		TRANSISTORS	
Q101	VS2SC945AP/-1	Silicon, NPN, 2SC945 AP	AB
Q102	VS2SC2878B/-1	Silicon, NPN, 2SC2878 B	AC
Q201	VS2SC945AP/-1	Silicon, NPN, 2SC945 AP	AB
Q202	VS2SC2878B/-1	Silicon, NPN, 2SC2878 B	AC
Q301	VS2SC2001-L-1	Silicon, NPN, 2SC2001 L	AB
Q302	VS2SC2001-L-1	Silicon, NPN, 2SC2001 L	AB
		DIODES	
D403	VHD1S2076//-1	Silicon, 1S2076	AB
D505	VHPGL5HD21/-1	LED, Red, GL-5HD21	AC
D601	VHPGL5HD21/-1	LED, Red, GL-5HD21	AC
D602	VHPGL5HD21/-1	LED, Red, GL-5HD21	AC
D603	VHPGL5EG821-1	LED, Green, GL-5EG821	AC
D604	VHPGL5EG821-1	LED, Green, GL-5EG821	AC
D605	VHPGL5EG821-1	LED, Green, GL-5EG821	AC
D606	VHPGL5HD21/-1	LED, Red, GL-5HD21	AC
D607	VHPGL5HD21/-1	LED, Red, GL-5HD21	AC
D608	VHPGL5EG821-1	LED, Green, GL-5EG821	AC
D609	VHPGL5EG821-1	LED, Green, GL-5EG821	AC
D610	VHPGL5EG821-1	LED, Green, GL-5EG821	AC
ZD101	VHERD5R6JB2-1	Zener, 5.6V, RD5.6JB2	AB
		COILS	
L101	RCiLZ0086AFZZ	6.8mH, Rec. Equalizer	AC
L201	RCiLZ0086AFZZ	6.8mH, Rec. Equalizer	AC
L301	RCiLZ0120AFZZ	15mH, Bias Trap	AC
L302	RCiLZ0120AFZZ	15mH, Bias Trap	AC
L303	RCiLB0712AFZZ	Bias Oscillation	AD
⚠L304	VP-CH561K0000	560 μH, Choke	AB
⚠L501	RCiLZ0062AFZZ	100 μH, Choke	AC
		FILTERS	
FL101	RCiLL0083AFZZ	Dolby MPX	AF
FL201	RCiLL0083AFZZ	Dolby MPX	AF
		CONTROLS	
VR101	RVR-M0391AFZZ	10 kohm (B), Playback Sens. Adj.	AB
VR102/202	RVR-Q0119AFZZ	50 kohms (A), Record Level Control	AK
VR103	RVR-M0391AFZZ	10 kohm (B), Rec. Sens. Adj.	AB
VR201	RVR-M0391AFZZ	10 kohm (B), Playback Sens. Adj.	AB
VR203	RVR-M0391AFZZ	10 kohm (B), Rec. Sens. Adj.	AB
VR301	RVR-M0394AFZZ	50 kohms (B), Bias Current Adj.	AB
VR302	RVR-M0394AFZZ	50 kohms (B), Bias Current Adj.	AB
VR401	RVR-B0297AFZZ	100 kohm (B), Rec. Level Balance Control	AD
		ELECTROLYTIC CAPACITORS	
		(All electrolytic capacitors are ±20% type.)	
C101	VCEALA1CC106M	10 μF, 16V	AB
C104	RC-EZA107AF1A	100 μF, 10V	AB
C106	RC-EZA335AF1H	3.3 μF, 50V	AB
C108	RC-EZA474AF1H	0.47 μF, 50V	AB
C109	RC-EZA106AF1C	10 μF, 16V	AB
C113	RC-EZA106AF1C	10 μF, 16V	AB
C114	RC-EZA334AF1H	0.33 μF, 50V	AB
C115	RC-EZA104AF1H	0.1 μF, 50V	AB
C116	RC-EZA227AF1A	220 μF, 10V	AB
C118	RC-EZA106AF1C	10 μF, 16V	AB
C119	RC-EZA475AF1E	4.7 μF, 25V	AB
C125	RC-EZA105AF1H	1 μF, 50V	AB
C127	RC-EZA475AF1E	4.7 μF, 25V	AB
C128	RC-EZA106AF1C	10 μF, 16V	AB
C201	VCEALA1CC106M	10 μF, 16V	AB
C204	RC-EZA107AF1A	100 μF, 10V	AB
C206	RC-EZA335AF1H	3.3 μF, 50V	AB
C208	RC-EZA474AF1H	0.47 μF, 50V	AB
C209	RC-EZA106AF1C	10 μF, 16V	AB
C213	RC-EZA106AF1C	10 μF, 16V	AB
C214	RC-EZA334AF1H	0.33 μF, 50V	AB
C215	RC-EZA104AF1H	0.1 μF, 50V	AB
C216	RC-EZA227AF1A	220 μF, 10V	AB
C218	RC-EZA106AF1C	10 μF, 16V	AB
C219	RC-EZA475AF1E	4.7 μF, 25V	AB
C225	RC-EZA105AF1H	1 μF, 50V	AB
C227	RC-EZA475AF1E	4.7 μF, 25V	AB
C228	RC-EZA106AF1C	10 μF, 16V	AB
C307	RC-EZA335AF1H	3.3 μF, 50V	AB
C503	RC-EZA107AF1C	100 μF, 16V	AB
C508	RC-EZA106AF1C	10 μF, 16V	AB
C509	RC-GZA477AF1C	470 μF, 16V	AC
C510	RC-GZA227AF1C	220 μF, 16V	AB
C511	RC-EZA106AF1C	10 μF, 16V	AB
C512	RC-EZA225AF1H	2.2 μF, 50V	AB
C601	RC-EZA104AF1H	0.1 μF, 50V	AB
C602	RC-EZA106AF1C	10 μF, 16V	AB
C603	RC-EZA104AF1H	0.1 μF, 50V	AB
C604	RC-EZA106AF1C	10 μF, 16V	AB

CAPACITORS

There are two types of capacitors available and they can be identified from each other by reading their Part Numbers.

- Ceramic type capacitor;
  A symbol 'C' or 'K' is given at the 3rd digit of its Part Number like 'VCC (or K)●●●●●●●J.'
- Semiconductor type capacitor;
  A symbol 'T' is given at the 3rd digit of its Part Number like "VCT●●●●●●●J.'

The capacitnace error of each capacitor is indicated by the symbol given at the 13th digit of the Part Number as follows: 'J' (±5%), 'K' (±10%), 'M' (±20%), 'N' (±30%), 'C' (±0.25pF), 'D' (±0.5pF), 'Z' (+80—20%).)

REF.NO.	PART NO.	DESCRIPTION	CODE
C102	VCTYPA1EX102J	0.001 μF, 25V	AA
C103	VCQYKA1HM102J	0.001 μF, 50V, Mylar	AA
C105	VCTYPA1EX223J	0.022 μF, 25V	AA
C110	VCTYPA1EX273J	0.027 μF, 25V	AA
C111	VCTYPA1EX472J	0.0047 μF, 25V	AA
C112	VCTYPA1EX562J	0.0056 μF, 25V	AA
C120	VCCSPA1HL681J	680 pF, 50V	AA
C121	VCCSPA1HL271J	270 pF, 50V	AC
C122	VCCSPA1HL271J	270 pF, 50V	AC
C123	VCCSPA1HL151J	150 pF, 50V	AA
C129	VCTYPA1EX123J	0.012 μF, 25V	AA
C130	VCTYPA1EX122J	0.0012 μF, 25V	AA
C131	VCTYPA1EX183J	0.018 μF, 25V	AA
C132	VCTYPA1EX222J	0.0022 μF, 25V	AA
C133	VCTYPA1EX223K	0.022 μF, 25V	AA
C134	VCTYPA1EX473J	0.047 μF, 25V	AB
C135	VCKZPA1HF403Z	0.04 μF, 50V	AA
C202	VCTYPA1EX102J	0.001 μF, 25V	AA
C203	VCQYKA1HM102J	0.001 μF, 50V, Mylar	AA
C205	VCTYPA1EX223J	0.022 μF, 25V	AA
C210	VCTYPA1EX273J	0.027 μF, 25V	AB
C211	VCTYPA1EX472J	0.0047 μF, 25V	AA
C212	VCTYPA1EX562J	0.0056 μF, 25V	AA
C220	VCCSPA1HL681J	680 pF, 50V	AA
C221	VCCSPA1HL2711	270 pF, 50V	AC
C222	VCCSPA1HL2711	270 pF, 50V	AC
C223	VCCSPA1HL151J	150 pF, 50V	AA
C229	VCTYPA1EX123J	0.012 μF, 25V	AA
C230	VCTYPA1EX122J	0.0012 μF, 25V	AA
C231	VCTYPA1EX183J	0.018 μF, 25V	AA
C232	VCTYPA1EX222J	0.0022 μF, 25V	AA
C233	VCTYPA1EX223K	0.022 μF, 25V	AA
C234	VCTYPA1EX473J	0.047 μF, 25V	AB
C301	VCCSPA1HL151J	150 pF, 50V	AA
C302	VCCSPA1HL151J	150 pF, 50V	AC
C303	VCQPKA2AA682J	0.0068 μF, 100V, Polypropylene	AB
C304	VCTYPA1EX472J	0.0047 μF, 25V	AA
C305	VCTYPA1EX472J	0.0047 μF, 25V	AA
C306	VCTYPA1EX103J	0.01 μF, 25V	AA
C308	VCTYPA1EX123J	0.012 μF, 25V	AA
C309	VCKZPA1HF103Z	0.01 μF, 50V	AA
C801	VCKZPA1HF403Z	0.04 μF, 50V	AA
C802	VCKZPA1HF403Z	0.04 μF, 50V	AA
C803	VCKZPA1HF403Z	0.04 μF, 50V	AA
C804	VCKZPA1HF403Z	0.04 μF, 50V	AA
		RESISTORS	
		(Unless otherwise specified, resistors are ±5%, carbon type.)	
R101	VRD-ST2CD823J	82 kohms, 1/6W	AA
R102	VRD-ST2CD101J	100 ohm, 1/6W	AA
R103	VRD-ST2CD682J	6.8 kohms, 1/6W	AA
R104	VRD-ST2CD124J	120 kohms, 1/6W	AA
R105	VRD-ST2CD103J	10 kohm, 1/6W	AA
R106	VRD-ST2CD562J	5.6 kohms, 1/6W	AA
R107	VRD-ST2CD822J	8.2 kohms, 1/6W	AA
R108	VRD-ST2CD680J	68 ohms, 1/6W	AA
R109	VRD-ST2CD122J	1.2 kohms, 1/6W	AA
R112	VRD-ST2CD123J	12 kohms, 1/6W	AA
R113	VRD-ST2CD152J	1.5 kohms, 1/6W	AA
R115	VRD-ST2CD332J	3.3 kohms, 1/6W	AA
R116	VRD-ST2CD104J	100 kohm, 1/6W	AA
R117	VRD-ST2CD222J	2.2 kohms, 1/6W	AA
R118	VRD-ST2CD154J	150 kohms, 1/6W	AA
R119	VRD-ST2CD274J	270 kohms, 1/6W	AA
R120	VRD-ST2CD181J	180 ohms, 1/6W	AA
R121	VRD-ST2CD473J	47 kohms, 1/6W	AA
R122	VRD-ST2CD474J	470 kohms, 1/6W	AA
R123	VRD-ST2CD153J	15 kohms, 1/6W	AA
R124	VRD-ST2CD103J	10 kohm, 1/6W	AA
R125	VRD-ST2CD104J	100 kohm, 1/6W	AA
R127	VRD-ST2CD472J	4.7 kohms, 1/6W	AA
R128	VRD-ST2CD101J	100 ohm, 1/6W	AA
R129	VRD-ST2CD332J	3.3 kohms, 1/6W	AA
R130	VRD-ST2CD102J	1 kohm, 1/6W	AA
R131	VRD-ST2CD222J	2.2 kohms, 1/6W	AA
R132	VRD-ST2CD222J	2.2 kohms, 1/6W	AA
R134	VRD-ST2CD103J	10 kohm, 1/6W	AA
R136	VRD-ST2CD473J	47 kohms, 1/6W	AA
R137	VRD-ST2CD223J	22 kohms, 1/6W	AA
R138	VRD-ST2CD102J	1 kohm, 1/6W	AA
R139	VRD-ST2CD102J	1 kohm, 1/6W	AA
R201	VRD-ST2CD823J	82 kohms, 1/6W	AA
R202	VRD-ST2CD101J	100 ohm, 1/6W	AA
R203	VRD-ST2CD682J	6.8 kohms, 1/6W	AA
R204	VRD-ST2CD124J	120 kohms, 1/6W	AA
R205	VRD-ST2CD103J	10 kohm, 1/6W	AA
R206	VRD-ST2CD562J	5.6 kohms, 1/6W	AA
R207	VRD-ST2CD822J	8.2 kohms, 1/6W	AA
R208	VRD-ST2CD680J	68 ohms, 1/6W	AA
R209	VRD-ST2CD122J	1.2 kohms, 1/6W	AA
R212	VRD-ST2CD123J	12 kohms, 1/6W	AA
R213	VRD-ST2CD152J	1.5 kohms, 1/6W	AA
R215	VRD-ST2CD332J	3.3 kohms, 1/6W	AA
R216	VRD-ST2CD104J	100 kohm, 1/6W	AA
R217	VRD-ST2CD222J	2.2 kohms, 1/6W	AA
R218	VRD-ST2CD154J	150 kohms, 1/6W	AA
R219	VRD-ST2CD274J	270 kohms, 1/6W	AA
R220	VRD-ST2CD181J	180 ohms, 1/6W	AA
R221	VRD-ST2CD473J	47 kohms, 1/6W	AA
R222	VRD-ST2CD474J	470 kohms, 1/6W	AA
R223	VRD-ST2CD153J	15 kohms, 1/6W	AA
R224	VRD-ST2CD103J	10 kohm, 1/6W	AA
R225	VRD-ST2CD104J	100 kohm, 1/6W	AA
R227	VRD-ST2CD472J	4.7 kohms, 1/6W	AA
R228	VRD-ST2CD101J	100 ohm, 1/6W	AA
R229	VRD-ST2CD332J	3.3 kohms, 1/6W	AA
R230	VRD-ST2CD102J	1 kohm, 1/6W	AA
R231	VRD-ST2CD222J	2.2 kohms, 1/6W	AA

REF.NO.	PART NO.	DESCRIPTION	CODE
R232	VRD-ST2CD222J	2.2 kohms, 1/6W	AA
R234	VRD-ST2CD103J	10 kohm, 1/6W	AA
R236	VRD-ST2CD473J	47 kohms, 1/6W	AA
R237	VRD-ST2CD223J	22 kohms, 1/6W	AA
R238	VRD-ST2CD102J	1 kohm, 1/6W	AA
R239	VRD-ST2CD102J	1 kohm, 1/6W	AA
R303	VRD-ST2EE4R7J	4.7 ohms,1/4W	AA
R304	VRD-ST2EE4R7J	4.7 ohms,1/4W	AA
R305	VRD-ST2CD273J	27 kohms, 1/6W	AA
R306	VRD-ST2CD273J	27 kohms, 1/6W	AA
R307	VRD-ST2EE271J	270 ohms, 1/4W	AA
R308	VRD-ST2EE331J	330 ohms, 1/4W	AA
R309	VRD-ST2EE391J	390 ohms, 1/4W	AA
⚠R311	VRG-ST2EC180J	18 ohms, 1/4W, ±5%, Fusible	AB
R312	VRD-ST2EE222J	2.2 kohms, 1/4W	AA
R501	VRD-ST2CD182J	1.8 kohms, 1/6W	AA
R502	VRD-ST2CD223J	22 kohms, 1/6W	AA
⚠R503	VRG-ST2EC180J	18 ohms, 1/4W, ±5%, Fusible	AB
R504	VRD-ST2EE331J	330 ohms, 1/4W	AA
R505	VRD-ST2CD273J	27 kohms, 1/6W	AA
R507	VRD-ST2CD102J	1 kohm, 1/6W	AA
[illegible]	VRD-ST2CD223J	22 kohms, 1/6W	AA
[illegible]	VRG-ST2EC220J	22 ohms, 1/4W, ±5%, Fusible	AB
R513	VRD-ST2CD224J	220 kohms, 1/6W	AA
R515	VRD-ST2CD222J	2.2 kohms, 1/6W	AA
R602	VRD-ST2CD223J	22 kohms, 1/6W	AA
R604	VRD-ST2CD103J	10 kohm, 1/6W	AA
R606	VRD-ST2CD223J	22 kohms, 1/6W	AA
R608	VRD-ST2CD103J	10 kohm, 1/6W	AA

CIRCUIT PARTS

CNS1	QCNW-1944AFZZ	Socket, 6Pin, with 2Pin Socket(CNS3)	AM
CNS2	QCNW-2640AFZZ	Socket, 5Pin, with 3Pin Socket(CNS4) and Input/ Output Plug	AP
CNS3	————	Socket, 2Pin, Part of CNS1	—
CNS4	————	Socket, 3Pin, Part of CNS2	—
CNS5	QCNW-1943AFZZ	Socket, 9Pin	AL
CNP1	QCNCM439FAFZZ	Plug, 6Pin	AB
CNP2	QCNCM586EAFZZ	Plug, 5Pin	AB
CNP3	QCNCM431BAFZZ	Plug, 2Pin	AA
[illegible]P4	QCNCM584CAFZZ	Plug, 3Pin	AA
CN[illegible]	QCNCM503JAFZZ	Plug, 9Pin	AC
J1	QJAKE0092AFZZ	Jack, Mic.	AD
J2	QJAKE0092AFZZ	Jack, Mic.	AD
⚠M1	RMōTV0112AF01	Motor with Pulley	AT
SW1	QSW-S0388AFZZ	Switch, Slide Type	AF
SW2	QSW-S0268AFZZ	Switch, Slide Type	AD
SW3/4/5	QSW-P0471AFZZ	Switch 3-Segment Push Type	AM
SW8	QSW-P0364AFZZ	Switch, Push Type	AE
SW10	QSW-F0137AFZZ	Switch, Skelton Type	AE
SW11	QSW-F0171AFZZ	Switch, Skelton Type	AC
SW12	QSW-F0174AFZZ	Switch, Skelton Type	AD

MECHANICAL PARTS

101	LBSHS0001AG00	Rubber Cushion, Motor	AA
102	————	Chassis, Mechanism	—
103	LCHSS0171AFFW	Plate, Head Base	AC
104	LCHSZ0125AFZZ	Turntable Block Assembly	AU
104-1	LCHSZ0113AFZZ	Base, Turntable	AG
104-2	LRTNP0051AFZZ	Stopper, Auto Stop Sensor Lever	AA
104-3	LX-WZ5018AGZZ	Washer, 2.1mm Dia. × 4mm Dia. × 0.25mm	AA
104-4	LX-WZ5048AGZZ	Washer, 1.7mm Dia. × 4mm Dia. × 0.25mm	AA
104-5	LX-WZ9064AFZZ	Washer, 1.5mm Dia. × 3.8mm Dia. × 0.5mm	AA
104-6	LX-WZ9073AFZZ	Washer, 1.2mm Dia. × 3.2mm Dia. × 0.5mm	AA
104-7	LX-WZ9074AFZZ	Washer, 2.1mm Dia. × 8.5mm Dia. × 0.5mm	AA
104-8	MARMP0018AF00	Lever, Fast-Forward Lever Joint	AC
104-9	MLEVP0366AFZZ	Lever, Auto Stop Sensor	AB
104-10	MLEVP0375AFZZ	Lever, Rewind Lever Joint	AF
104-11	MSPRC0279AFFJ	Spring, Back Tension	AA
104-12	MSPRC0311AFFJ	Spring, Auto Stop Sensor Lever	AA
104-13	MSPRD0548AFFJ	Spring, Playback Idler Pressure	AB
104-14	MSPRD0405AFFJ	Spring, Stop Lever	AA
104-15	MSPRT0850AFFJ	Spring, Playback Idler	AA
104-16	NDAiR0157AFZZ	Turntable, Take-Up	AF
104-17	NDAiR0161AFZZ	Turntable, Supply	AD
104-18	NGERH0081AFZZ	Gear, Rewind	AC
104-19	NiDR-0079AFZZ	Playback Idler	AD
105	LDAiH0056AF00	Head Base	AB
106	LDAiH0057AFZZ	Base, Head Base Guide	AD
107	LPiNZ0055AFZZ	Pin, Pause Lever Lock	AA
108	LPLTM0116AFFW	Plate, Button Lever Pressure	AC
109	LPLTM0117AF01	Chassis, Back	AG
110	LRTNP0050AFZZ	Stopper, Lever	AA
111	LSTWC4004AFZZ	Stop Ring, 4 mm Dia.	AA
112	LANGZ0097AFFW	Ground Plate, Erase Head	AB
119	LHLDW9003CEZZ	Wire Holder	AA
120	MARMP0015AFZZ	Arm, P.A.D. Cam Operation	AC
121	MARMP0016AFZZ	Arm, Pause Cam Operation	AB
122	MARMP0017AF00	Arm, Record Sensor	AB
123	MCAMP0056AF00	Cam,P.A.D	AC
124	MCAMP0057AF00	Cam, Pause	AC
125	MLEVP0344AF00	Lever, Lock Release	AB
126	MLEVP0345AF00	Lever, Fast-Forward	AB
127	MLEVP0346AF00	Lever, Rewind	AB
128	MLEVP0348AF00	Lever, P.A.D. Cam Lock	AB
129	MLEVP0349AF00	Lever, Pause Cam Lock	AB
130	MLEVP0350AF00	Lever, Pause	AB
131	MLEVP0351AF00	Lever, Erase Prevention	AB
132	MLEVP0352AF00	Lever, Button	AA
133	MLEVP0353AF00	Plate, Safty Lock	AB
134	MLEVP0354AF00	Lever, Record Operation	AA
135	MLEVP0355AF00	Lever, Main Switch	AA
136	MLEVP0356AF00	Lever, Main Switch Retaining	AB
137	MLEVP0357AF00	Lever, Playback	AB
138	MLEVP0358AFZZ	Lever, Record Joint	AC
139	MLEVP0360AF00	Lever, Brake	AB
140	MLEVP0361AF00	Lever, Switch Operation	AA
141	MLEVP0362AF00	Lever, Fast-Forward/Rewind	AA
142	MLEVP0363AF00	Lever, Eject	AB
143	MLEVP0364AF00	Lever, Record	AB
144	MLEVP0365AF00	Lever, Plunger Solenoid Joint	AB
145	MLEVP0387AF00	Lever, Button Lock (Sub)	AC
146	MLEVP0388AF00	Lever, Button Lock (Main)	AC
147	LSLVM0135AFFW	Pin, Pause Cam Lock Lever	AD
149	MSPRD0398AFFJ	Spring, Fast-Forward/Rewind Lever	AA
150	MSPRC0230AFFJ	Spring, Head Azimuth	AB
151	MSPRC0268AFFJ	Spring, Button Lever (Eject, Playback, Rewind, Fast-Forward)	AA
152	MSPRC0269AFFJ	Spring, Safety Lock	AA
153	MSPRC0270AFFJ	Spring, Pause Lever Lock	AA
154	MSPRC0271AFFJ	Spring, Brake Lever Pressure	AA
155	MSPRC0289AFFJ	Spring, Pause Button Lever	AA
156	MSPRC0356AFFJ	Spring, Stop Button Lever	AC
157	MSPRD0464AFFJ	Spring, Pinch Roller Pressure	AB
158	MSPRD0388AFFJ	Spring, Pause Cam Lock Lever	AA
159	MSPRD0389AFFJ	Spring, Pause Cam	AA
160	MSPRD0390AFFJ	Spring, Pause Lever	AA
161	MSPRD0391AFFJ	Spring, Rewind Lever	AA
163	MSPRD0394AFFJ	Spring, Record Sensor Arm	AA
164	MSPRD0395AFFJ	Spring, Playback Lever	AA
165	MSPRD0396AFFJ	Spring, Pause Cam Operation Arm	AA
166	MSPRD0397AFFJ	Spring, Head Plate	AA
167	MSPRD0420AFFJ	Spring, Button Lock Lever	AA
168	MSPRP0320AFFJ	Spring, Cassette Holder Pressure	AA
169	MSPRP0300AFFW	Spring, Head Plate Pressure	AA
170	MSPRT0835AFFJ	Spring, Lock Release Lever	AA
171	MSPRT0836AFFJ	Spring, Fast-Forward, Record Lever	AA
172	MSPRT0837AFFJ	Spring, Head Plate	AA
173	MSPRT0838AFFJ	Spring, Eject Lever	AA
174	MSPRT0839AFFJ	Spring, P.A.D. Cam Operation Arm	AA
175	MSPRT0911AFFJ	Spring, Ground	AA
177	NBALS0006AGFJ	Steel Ball, 2mm Dia.	AA
178	NBLTH0082AF00	Belt, Flywheel	AC
179	NBLTK0208AFZZ	Belt, Playback	AB
180	NBLTK0210AF00	Belt, Fast-Forward/Rewind	AB
181	NBRGC0079AFZZ	Bearing, Capstan	AE
182	NBRGP0062AF00	Bearing, Flywheel	AA
183	NFLYC0098AFZZ	Flywheel	AK
184	NGERH0080AF00	Gear, P.A.D. Drive	AD
185	NROLY0059AFZZ	Pinch Roller	AE
186	PGiDM0101AF00	Guide, Head Base	AC
188	QCNW-1618AFZZ	Ground Lead with Lug	AC
189	QLUGP9052AFZZ	Lug Terminal, 17mm	AA
190	RHEDA0091AFZZ	Head, Erase	AH
191	RHEDH0103AFZZ	Head, Record/Playback	AN
192	JKNBM0471AFSA	Button, Pause/Fast-Forward/ Rewind/Stop /Playback (S/BK/W)	AM
192	JKNBM0471AFSB	Button, Pause/Fast-Forward/ Rewind/Stop /Playback (BR)	AM
193	JKNBM0472AFSA	Button, Record (S/BK/W)	AD
193	JKNBM0472AFSB	Button, Record (BR)	AD
194	JKNBM0472AFSH	Button, Eject (S/BK/W)	AD
194	JKNBM0472AFSi	Button, Eject (BR)	AD
195	MLEVF1508AFFW	Record/Playback Changeover	AD
196	NSFTZ0098AFZZ	Shaft, Record/Playback Changeover	AD
197	PSPAZ0107AFZZ	Spacer, Record/Playback Changeover	AC
198	LSTWC3002AFZZ	Stop Washer, 3mm Dia.	AA
501	LX-BZ0219AFFD	Screw, 2.6mm Dia. × 7.8mm	AA
502	LX-HZ0077AFZZ	Screw, 2.6mm Dia. × 10mm	AA
503	LX-NZ0146AFZZ	Nut, 7mm Dia. × 2mm	AC
504	LX-WZ9053AFZZ	Washer, 2.4mm Dia. × 5mm Dia. × 0.5mm	AA
505	XBPSD20W12000	Screw, 2mm Dia. × 12mm	AA
506	XBPSD26P20000	Screw, 2.6mm Dia. × 20mm	AA
507	XHPSD20P08000	Screw, 2mm Dia. × 8mm	AA
508	XHPSD20P10000	Screw, 2.6mm Dia. × 10mm	AA
509	XJBSD30P10000	Screw, 3mm Dia. × 10mm	AA
510	XJPSD26P10000	Screw, 2.6mm Dia. × 10mm	AA
511	XREUJ20-04000	Stop Ring, E-Type, 2mm Dia.	AA
512	XWHJZ21-05040	Washer, 2.1mm Dia. × 4mm Dia. × 0.5mm	AA
513	XWHJZ26-05060	Washer, 2.6mm Dia. × 6mm Dia. × 0.5mm	AA
514	XWHSD32-05080	Washer, 3.2mm Dia. × 8mm Dia. × 0.5mm	AA
515	XWHSD41-05080	Washer, 4.1mm Dia. × 8mm Dia. × 0.5mm	AA

CABINET PARTS

201	CPNLC1553AF01	Panel Assembly, Front (S)	AY
201	CPNLC1553AF03	Panel Assembly, Front (BK)	AY
201	CPNLC1553AF05	Panel Assembly, Front (BR)	AY
201	CPNLC1553AF07	Panel Assembly, Front (W)	AY
201-1	HDECP0199AFSA	Plate, Display Meter (S)	AE
201-1	HDECP0199AFSB	Plate, Display Meter (BK)	AE
201-1	HDECP0199AFSC	Plate, Display Meter (BR)	AE
201-1	HDECP0199AFSD	Plate, Display Meter (W)	AE
201-2	————	Panel, Front	—
201-3	PFLT-0494AFZZ	Felt, Front Leg	AA
202	GCAB-3145AFSA	Cabinet (S/W)	AP
202	GCAB-3145AFSD	Cabinet (BK)	AP
202	GCAB-3145AFSB	Cabinet (BR)	AP
203	GCōVA1393AFSD	Cover, Cassette Holder (S)	AK
203	GCōVA1393AFSE	Cover, Cassette Holder (BK)	AK
203	GCōVA1393AFSF	Cover, Cassette Holder (BR)	AH
203	GCōVA1393AFSG	Cover, Cassette Holder (W)	AH
204	GFTAC1120AFSi	Cassette Holder (S/W)	AF
204	GFTAC1120AFSD	Cassette Holder (BR)	AF
204	GFTAC1120AFSC	Cassette Holder (BK)	AF
205	GFTAU3113AFZZ	Bottom Plate	AH
206	GLEGP0087AFZZ	Leg, Rear	AB
207	JKNBM0489AFSB	Button, Tape Selector (S/BK/W)	AE
207	JKNBM0489AFSC	Button, Tape Selector (BR)	AE
208	JKNBM0490AFSB	Button, Dolby NR (S/BK/W)	AE
208	JKNBM0490AFSC	Button, Doldy NR (BR)	AE
209	JKNBM0492AFSC	Button, Power Switch (S/BK/W)	AD
209	JKNBM0492AFSE	Button, Power Switch(BR)	AD
210	JKNBN0483AFSB	Knob, Record Level Balance Control	AA
211	JKNBZ0311AFSA	Knob, Record Level Control (S/BK/W)	AE
211	JKNBZ0311AFSC	Konb, Record Level Control (BR)	AD
212	KCōUB0146AFSA	Tape Counter (S)	AH
212	KCōUB0146AFSC	Tape Counter (BK/W)	AH
212	KCōUB0146AFSB	Tape Counter (BR)	AH
213	LANGK0359AFZZ	Bracket, Mic. Jacks PWB	AB
216	LANGT0979AFZZ	Bracket, Main PWB	AB
217	LANGT1179AFZZ	Bracket, Tape Counter	AB
218	LANGT1216AFZZ	Bracket, Mic. Jacks PWB	AD
219	LANGT1217AFZZ	Bracket, Main PWB	AB
220	LBSHC0059AFZZ	Bushing	AC
221	LCHSM0497AFZZ	Chassis, Main	AM
222	LHLDW1062AFZZ	Wire Holder	AA
223	LHLDW1068AFZZ	Nylon Band, 100mm	AA
224	LHLDW1075AFZZ	Nylon Band, 60mm	AA
225	LHLDZ1211AFSA	Holder, Record Level Control (S/BK/W)	AD
225	LHLDZ1211AFSB	Holder, Record Level Control (BR)	AD
231	LX-WZ3080AFZZ	Bracket, Damper	AA
232	MLEVF1509AFFW	Lever Record/Playback Selector	AD
233	MLEVP0458AFZZ	Lever, Dolby NR/Tape Selector Switch	AC
234	MLiFP0014AFZZ	Damper, Cassette Holder	AD
235	MSPRD0271AFFJ	Spring, Cassette Holder Guide, Left	AA
236	MSPRD0527AFFJ	Spring, Cassette Holder Guide, Right	AA

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REF.NO.	PART NO.	DESCRIPTION	CODE
237	MSPRD0444AFFJ	Spring, Cassette Opening	AB
238	MSPRT1027AFEJ	Rod, Record/Playback Selector	AC
239	NBLTK0266AFZZ	Belt, Tape Counter	AB
240	PGiDM0075AFSi	Guide, Cassette Tape, Left (S/W)	AB
240	PGiDM0075AFSC	Guide, Cassette Tape, Left (BK)	AB
240	PGiDM0075AFSD	Guide, Cassette Tape, Left (BR)	AB
241	PGiDM0076AFSi	Guide, Cassette Tape, Right (S/W)	AB
241	PGiDM0076AFSC	Guide, Cassette Tape, Right (BK)	AB
241	PGiDM0076AFSD	Guide, Cassette Tape, Right (BR)	AB
242	PGUMS0237AF00	Rubber, Cassette Holder	AB
243	PCUSS0223AFZZ	Cushion, Dolby NR/Tape Selector Switch Lever	AB
244	TSPC-1208AFZZ	Label, Spec. H(S)	AC
244	TSPC-1219AFZZ	Label, Spec. E(S)	AC
244	TSPC-1228AFZZ	Label, Spec. H(BK)	AC
244	TSPC-1261AFZZ	Label, Spec. H(BR)	AC
244	TSPC-1262AFZZ	Label, Spec. H(W)	AC
245	QCNW-2832AFZZ	Lug, with 90mm Lead Wire	AA
246	PSPAi0286AFZZ	Spacer, LED	AB
247	QCNWZ-2756AFZZ	Lug, with 50mm and 280mm Lead Wire	AD
601	LX-HZ0087AFFD	Screw, with Washer, 3mm Dia. × 8mm	AA
602	LX-HZ0105AFFF	Screw, 3mm Dia. × 6mm, Black	AB
603	LX-JZ0004AFF3	Screw, 3mm Dia. × 14mm, Red	AA
604	LX-JZ0010AFFD	Screw, with Washer, 3mm Dia. × 10mm	AA
605	XHBSD30P08000	Screw, 3mm Dia. × 8mm	AA
606	LX-WZ1087AFZZ	Washer, Fiber, 4.2mm Dia. × 9mm Dia. × 0.8mm	AA
607	XHBSD30P06000	Screw, 3mm Dia. × 6mm	AA
608	XHBSN30P08000	Screw, 3mm Dia. × 8mm (S/W)	AA
608	XHBSF30P08000	Screw, 3mm Dia. × 8mm (BK)	AA
608	XHBS530P10000	Screw, 3mm Dia. × 10mm (BR)	AA
609	XHBSN40P08000	Screw, 4mm Dia. × 8mm (S/W)	AA
609	XHBSF40P08000	Screw, 3mm Dia. × 8mm (BK)	AA
609	XHBS540P08000	Screw, 3mm Dia. × 8mm (BR)	AA
610	XHSSD30P06000	Screw, 3mm Dia. × 8mm	AA
611	XJBSD30P08000	Screw, 3mm Dia. × 6mm	AA
612	XJBSD30P12000	Screw, 3mm Dia. × 12mm	AA
613	XJSS330P08000	Screw, 3mm Dia. × 8mm, Red	AA
614	XJBSD30P10000	Screw, 3mm Dia. × 10mm	AA
615	XWHSD35-10150	Washer, 3.5mm Dia. × 5mm Dia. × 1mm	AA
616	XWSSJ30-07000	Spring Washer, 3mm Dia. × 0.7mm	AA
617	XREUJ30-06000	Stop Ring, E-type, 3mm Dia.	AA

PACKING PARTS

	SPAKA1025AFZZ	Packing Add., Left
	SPAKA1026AFZZ	Packing Add., Right
	SPAKC2939AFZZ	Packing Case, H(S)
	SPAKC2995AFZZ	Packing Case, E(S)
	SPAKC2997AFZZ	Packing Case, H(BK)
	SPAKC3064AFZZ	Packing Case, H(BR)
	SPAKC3065AFZZ	Packing Case, H(W)
	SPAKP0260AFZZ	Sheet, Front Cover (S/BR/W)
	SPAKP0426AFZZ	Bag, Unit (BK)
	SPAKX0987AFZZ	Pad, Cassette Cover
	SSAKH0075AGZZ	Polyethylene Bag, Unit
	TCAUZ0039AFZZ	Label, Caution, Polyethylene Bag, E(S), For UK
	TLABJ0006AFZZ	Label, "MADE IN JAPAN" E(S), For UK

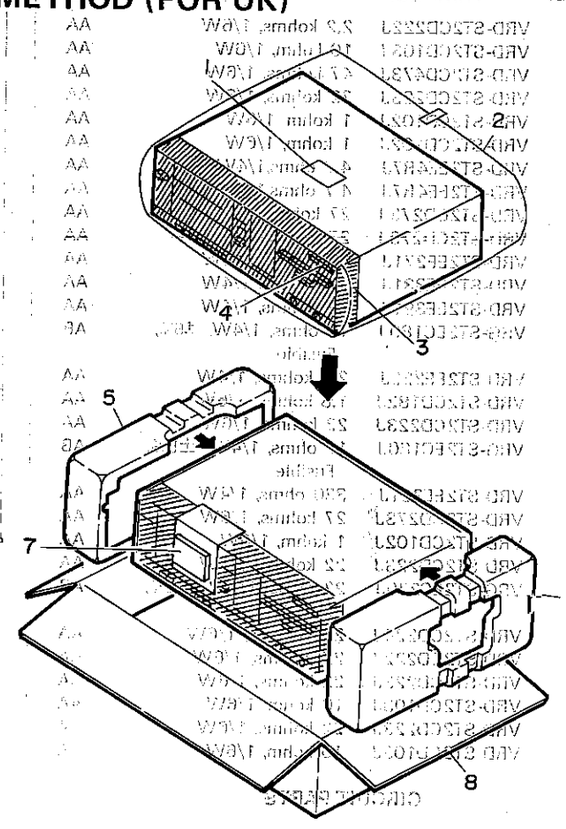
P.W.B ASSEMBLY(Not Replacement Item)

	DUNTU0148AF03 (Combined Assembly)	Main/Meter/Control/ Microphone/Power Switch Circuit

PACKING METHOD (FOR UK)

SETTING POSITIONS OF SWITCHES AND KNOBS	
Power Switch	OFF
Mechanism	STOP
Tape Counter	000
Dolby NR Switch	OFF
Tape Selector Switches	NORMAL/OFF
Record Level Control Knob	Center
Record Level Balance Control Knob	Center
Input Selector Switch	LINE

1.	Caution Label	TCAUZ0039AFZZ
2.	Polyethylene Bag	SSAKH0075AGZZ
3.	Sheet	SPAKP0260AFZZ
4.	Label, MADE IN JAPAN	TLABJ0006AFZZ
5.	Packing Add, Left	SPAKA1025AFZZ
6.	Packing Add, Right	SPAKA1026AFZZ
7.	Pad	SPAKX0987AFZZ
8.	Packing Case	SPAKC2995AFZZ



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